STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 147196

TO: Ralph J Gitomer **Location: REM-3D65&3E71** **Art Unit: 1651** **Tuesday, March 15, 2005** **Case Serial Number: 10/696017**	**From: Noble Jarrell** **Location: Biotech-Chem Library** **Rem 1B71** **Phone: 272-2556** **Noble.jarrell@uspto.gov**

Search Notes

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     (FILE 'HOME' ENTERED AT 08:21:51 ON 15 MAR 2005)

     FILE 'HCAPLUS' ENTERED AT 08:21:57 ON 15 MAR 2005
L1             1 US20040086849/PN
               E US1999-129602/AP,PRN
L2             1 US1999-129602P/AP,PRN
L3             1 L1-2

     FILE 'REGISTRY' ENTERED AT 08:23:16 ON 15 MAR 2005

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L4               TRA L3 1- RN :        5 TERMS

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     FILE 'WPIX' ENTERED AT 08:23:22 ON 15 MAR 2005
L6             1 US20040086849/PN
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L7             1 US1999-129602P/AP,PRN
L8             1 L6-7

=> b hcap
FILE 'HCAPLUS' ENTERED AT 08:24:00 ON 15 MAR 2005
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FILE COVERS 1907 - 15 Mar 2005  VOL 142 ISS 12
FILE LAST UPDATED: 14 Mar 2005  (20050314/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d all 13

L3   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2000:756905  HCAPLUS
DN   133:307306
ED   Entered STN:  27 Oct 2000
TI   Influenza virus detection method and diagnostic kit using viral encoded
     enzymes and chemiluminescent substrates
IN   Shimasaki, Craig D.; Achyuthan, Komandoor Elayavalli; Edwards, Brooks
PA   Zymetx, Inc., USA
SO   PCT Int. Appl., 34 pp.
     CODEN: PIXXD2
DT   Patent
```

LA English
IC ICM C12Q001-00
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 7, 10, 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000063423	A2	20001026	WO 2000-US9752	20000412 <--
	WO 2000063423	A3	20010301		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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	EP 1185710	A2	20020313	EP 2000-923265	20000412 <--
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	US 2004086849	A1	20040506	US 2003-691017	20031022 <--
PRAI	US 1999-129602P	P	19990416 <--		
	WO 2000-US9752	W	20000412		
	US 2000-548714	B1	20000413		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000063423	ICM	C12Q001-00
US 2004086849	ECLA	C12Q001/34; C12Q001/70 <--

OS MARPAT 133:307306

AB A chemiluminescent system for detecting the presence of influenza virus in a biol. fluid sample is provided. An influenza diagnostic kit is provided which includes (1) a sampling device for obtaining the biol. fluid from a subject, (2) a chemiluminescent substrate material which, in the presence of influenza virus in the biol. sample, will generate a chemiluminescent product that will produce detectable light, and (3) a means for detecting any generated light. A liquid sample containing the biol. fluid, and preferably a diluent, are contacted with an absorbent material containing the chemiluminescent substrate material. The substrate responds to neuraminidase activity intrinsic to influenza A and influenza B virus particles, such that when the substrate is in contact with influenza virus, the substrate is cleaved to yield a chemiluminescent product that then decomps. to produce light which can then be detected. The chemiluminescent substrate materials include enzymically triggerable 1,2-dioxetane derivs. of 4-alkoxy-N-acetylneuraminic acid and 4,7-dialkoxy-N-acetylneuraminic acid. The system is sufficiently simple that it can reliably be used by a layperson in a nonmedical setting. The biol. fluid generally originates from the oral cavity, the pharyngeal cavity, or the nasopharyngeal cavity.

ST influenza virus body fluid chemiluminescent assay; dioxetane alkoxy acetylneuraminate influenza infection chemiluminescence; neuraminidase influenza diagnosis kit chemiluminescence

IT Mouth
Pharynx
(biol. fluid sample from; influenza virus detection method and diagnostic kit using viral encoded enzymes and chemiluminescent substrates)

IT Absorbents

Analytical apparatus
Body fluid
Chemiluminescence spectroscopy
Diagnosis
Influenza
Influenza A virus
Influenza B virus
Influenza virus
Luminescence, chemiluminescence
Photographic films
Sample preparation
Sampling apparatus
Test kits
(influenza virus detection method and diagnostic kit using viral encoded enzymes and chemiluminescent substrates)

IT Pharynx
(nasopharynx, biol. fluid sample from; influenza virus detection method and diagnostic kit using viral encoded enzymes and chemiluminescent substrates)

IT 9001-67-6, Neuraminidase
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(influenza virus detection method and diagnostic kit using viral encoded enzymes and chemiluminescent substrates)

IT 131-48-6D, N-Acetylneuraminic acid, (di)alkoxy derivs. 302585-85-9D, C1-6 alkyl derivs. 302585-86-0 302585-87-1
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(influenza virus detection method and diagnostic kit using viral encoded enzymes and chemiluminescent substrates)

=> b reg
FILE 'REGISTRY' ENTERED AT 08:24:08 ON 15 MAR 2005
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 MAR 2005 HIGHEST RN 845540-96-7
DICTIONARY FILE UPDATES: 14 MAR 2005 HIGHEST RN 845540-96-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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Crossover limits have been increased. See HELP CROSSOVER for details.

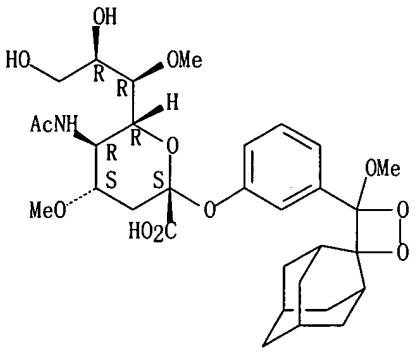
Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide l5 tot

L5 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 302585-87-1 REGISTRY

CN .alpha.-Neuraminic acid, N-acetyl-2-O-[3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl]-4,7-di-O-methyl-, monosodium salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C31 H43 N O12 . Na
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)
CRN (669053-21-8)

Absolute stereochemistry.



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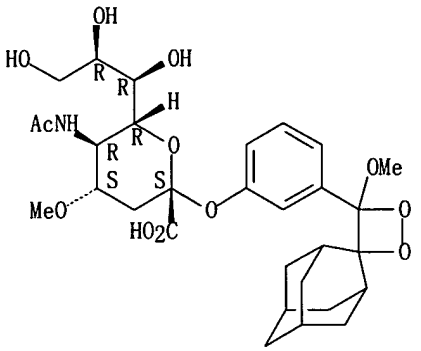
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 302585-86-0 REGISTRY
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl]-4-O-methyl-, monosodium salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H41 N O12 . Na
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)
CRN (722453-20-5)

Absolute stereochemistry.



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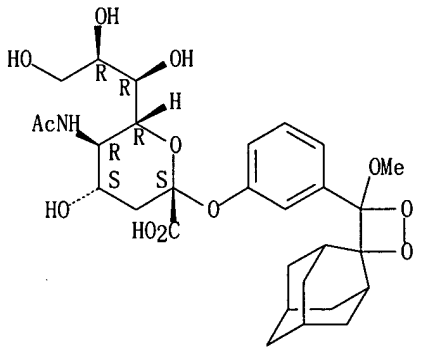
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 302585-85-9 REGISTRY
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl]-, monosodium salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C29 H39 N O12 . Na
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)
CRN (790647-90-4)

Absolute stereochemistry.



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 9001-67-6 REGISTRY
CN Neuraminidase (9CI) (CA INDEX NAME)
OTHER NAMES:
CN .alpha.-Neuraminidase
CN Acetylneuraminidase
CN Arylneuraminidase
CN E.C. 3.2.1.18
CN Exo-.alpha.-sialidase
CN N-Acetylneuraminidase
CN N-Acylneuraminyl hydrolase
CN Parasite-derived mimic of neurotrophic factors
CN Sialidase
DR 9014-31-7
MF Unspecified
CI COM, MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT, NIOSHTIC, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
5280 REFERENCES IN FILE CA (1907 TO DATE)
90 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5288 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2005 ACS on STN
RN 131-48-6 REGISTRY
CN Neuraminic acid, N-acetyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-D-galacto-2-Nonulosonic acid, 5-(acetylamino)-3,5-dideoxy-
CN D-glycero-D-galacto-Nonulosonic acid, 5-acetamido-3,5-dideoxy- (8CI)
CN Lactaminic acid (7CI)
OTHER NAMES:
CN 5-N-Acetyl-D-neuraminic acid
CN 5-N-Acetylneuraminic acid
CN Aceneuramic acid
CN Acetylneuraminic acid
CN N-Acetyl-D-neuraminic acid
CN N-Acetylneuramic acid

CN N-Acetylneuraminic acid
CN N-Acetylsialic acid
CN NANA
FS STEREOSEARCH
DR 801157-24-4, 688025-48-1, 6918-20-3, 11032-36-3, 14752-56-8, 5977-25-3, 6225-16-7
MF C11 H19 N O9
CI COM
LC STN Files: ADISINSIGHT, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC, PHAR, PROMT, PROUSDDR, SPECINFO, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA CAplus document type: Conference; Dissertation; Journal; Patent; Report
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
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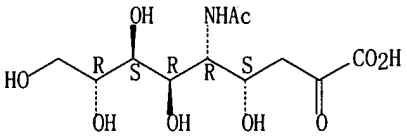
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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2577 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> b wpix
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FILE LAST UPDATED: 11 MAR 2005 <20050311/UP>
MOST RECENT DERWENT UPDATE: 200517 <200517/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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FOR DETAILS. <<<

=> d all l8

L8 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2001-031627 [04] WPIX
DNC C2001-009563
TI Detection of influenza virus by a simple process that can be carried out by lay people, using a chemiluminescent derivative of 4-alkoxy- or 4,7-dialkoxy-N-acetylneuraminic acid.
DC B04 D16 E13 E23
IN ACHYUTHAN, K E; EDWARDS, B; SHIMASAKI, C D
PA (ZYME-N) ZYMETX INC
CYC 93
PI WO 2000063423 A2 20001026 (200104)* EN 34 C12Q001-00
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AU 2000043421 A 20001102 (200107)
EP 1185710 A2 20020313 (200225) EN C12Q001-70
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JP 2002541858 W 20021210 (200301) 36 C12Q001-70
US 2004086849 A1 20040506 (200430) C12Q001-70 <--
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FDT AU 2000043421 A Based on WO 2000063423; EP 1185710 A2 Based on WO 2000063423; JP 2002541858 W Based on WO 2000063423
PRAI US 1999-129602P 19990416; US 2000-548714 20000413; US 2003-691017 20031022
IC ICM C12Q001-00; C12Q001-70
ICS C07H017-00; C12Q001-34; G01N033-483; G01N033-50; G01N033-52; G01N033-58
AB WO 200063423 A UPAB: 20010118
NOVELTY - A chemiluminescent derivative of 4-alkoxy-N-acetylneuraminic acid (I) or 4,7-dialkoxy-N-acetylneuraminic acid (II), which yields a chemiluminescence product when contacted with an influenza virus, is used

to detect influenza viruses.

DETAILED DESCRIPTION - Detecting influenza virus in a subject comprises:

(1) obtaining a biological fluid sample from the subject;

(2) contacting the sample with a substrate containing a chemiluminescent derivative of (I) or (II) so that, when the chemiluminescent derivative is in contact with influenza virus in the sample, it will yield a chemiluminescence product which will generate light; and

(3) detecting whether light has been generated.

An INDEPENDENT CLAIM is included for an influenza diagnostic kit, which can be used by a layperson in a nonmedical setting, comprising:

(a) a sampling device to obtain a biological fluid sample from a subject; and

(b) a test system for detecting the presence of an influenza virus in the biological fluid.

The test system comprises:

(i) a substrate as described above; and

(ii) a photographic film which is in optical communication with the chemiluminescent derivative to detect if light is generated.

USE - The process and kit are useful for detection of influenza virus in biological samples and utilize the neuraminidase activity intrinsic to influenza A and influenza B virus particles

ADVANTAGE - The process and kit are simple enough that they can reliably be used by non-medical personnel in a non-medical setting. The process is simple, rapid and sensitive.

Dwg. 0/0

FS CPI

FA AB; GI; DCN

MC CPI: B04-F11; B07-A02B; B07-A04; B11-C07B; B11-C08E; B11-C09; B12-K04A4; D05-H06; D05-H09; E05-A; E07-A02H; E25-E02

=> b home

FILE 'HOME' ENTERED AT 08:24:23 ON 15 MAR 2005

=>

=> b reg
FILE 'REGISTRY' ENTERED AT 09:51:42 ON 15 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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STRUCTURE FILE UPDATES: 14 MAR 2005 HIGHEST RN 845540-96-7
DICTIONARY FILE UPDATES: 14 MAR 2005 HIGHEST RN 845540-96-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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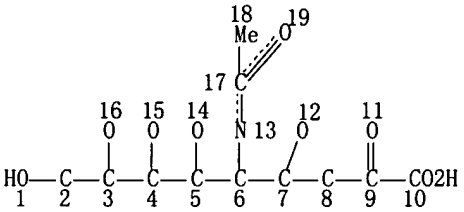
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d que sta l11
L9 STR



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CONNECT IS M1 RC AT 12
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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE
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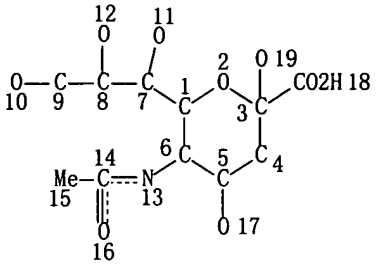

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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STEREO ATTRIBUTES: NONE
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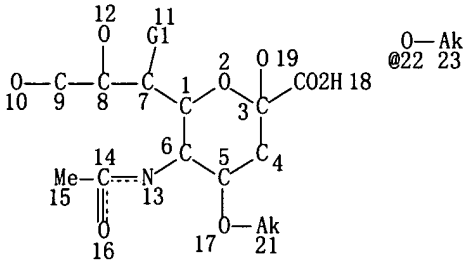

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L19 6 SEA FILE=REGISTRY SUB=L14 SSS FUL L17

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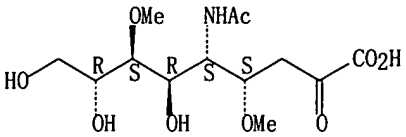
L20 ANSWER 1 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 203448-18-4 REGISTRY
CN Neuraminic acid, N-acetyl-4,7-di-O-methyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 4,7-Di-O-methyl-N-acetylneuraminic acid
FS STEREOSEARCH

DR 243134-43-2
MF C13 H23 N O9
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 2 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 177898-35-0 REGISTRY
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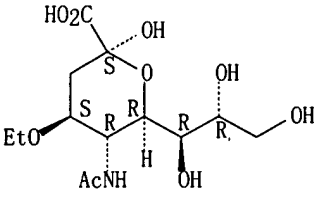
OTHER CA INDEX NAMES:
CN D-glycero-.beta.-D-galacto-2-Nonulopyranosonic acid, 5-(acetylamino)-3,5-dideoxy-4-O-ethyl-
FS STEREOSEARCH
MF C13 H23 N O9
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

Absolute stereochemistry.



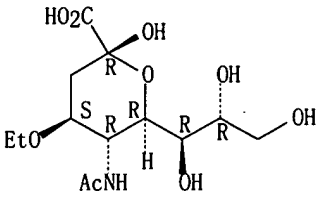
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 3 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 171079-29-1 REGISTRY
CN .alpha.-Neuraminic acid, N-acetyl-4-O-ethyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-.alpha.-D-galacto-2-Nonulopyranosonic acid, 5-(acetylamino)-3,5-dideoxy-4-O-ethyl-
FS STEREOSEARCH

MF C13 H23 N O9
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.

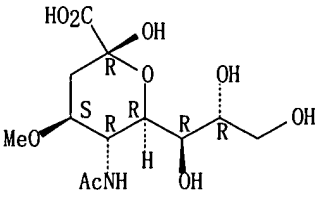


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 4 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 171079-26-8 REGISTRY
CN .alpha.-Neuraminic acid, N-acetyl-4-O-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-.alpha.-D-galacto-2-Nonulopyranosonic acid, 5-(acetylamino)-3,5-dideoxy-4-O-methyl-
FS STEREOSEARCH
MF C12 H21 N O9
SR CA
LC STN Files: CA, CAPLUS, CASREACT
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.



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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 5 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 68355-09-9 REGISTRY
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OTHER CA INDEX NAMES:
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FS STEREOSEARCH
MF C12 H21 N O9

LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Journal; Patent
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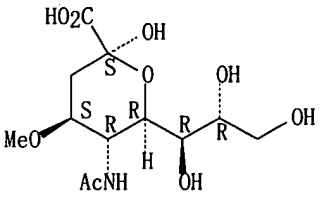
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.



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2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 6 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 67974-39-4 REGISTRY
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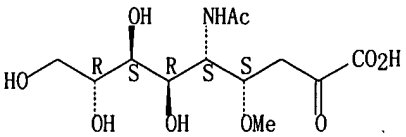
OTHER NAMES:
CN 4-O-Methyl-N-acetylneuraminic acid
FS STEREOSEARCH
MF C12 H21 N O9
LC STN Files: CA, CANCERLIT, CAPLUS, MEDLINE, TOXCENTER
DT.CA CAplus document type: Conference; Journal
RL.NP Roles from non-patents: ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.



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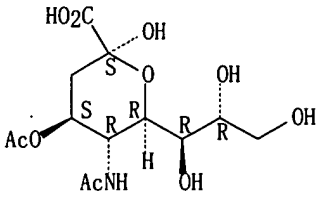
5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 7 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 55600-96-9 REGISTRY
CN .beta.-Neuraminic acid, N-acetyl-, 4-acetate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-.beta.-D-galacto-2-Nonulopyranosonic acid, 5-(acetylamino)-3,5-dideoxy-, 4-acetate
FS STEREOSEARCH
MF C13 H21 N O10
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT

(*File contains numerically searchable property data)
DT.CA CAplus document type: Conference; Journal
RL.NP Roles from non-patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PRP (Properties)

Absolute stereochemistry.



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4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 8 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 54686-98-5 REGISTRY
CN Neuraminic acid, N-acetyl-, 4,?-diacetate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-D-galacto-2-Nonulosonic acid, 5-(acetylamino)-3,5-dideoxy-, 4,?-diacetate
FS STEREOSEARCH
MF C15 H23 N O11
CI IDS
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study)

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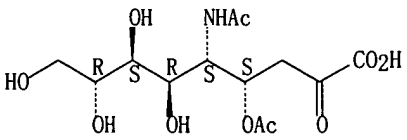
CRN 16655-75-7
CMF C13 H21 N O10

Absolute stereochemistry.



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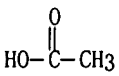
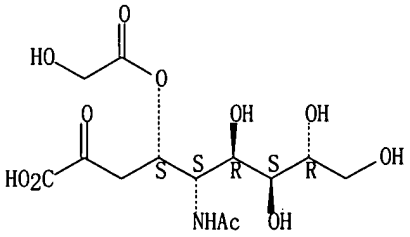
CRN 64-19-7
CMF C2 H4 O2



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 9 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 54684-63-8 REGISTRY
CN Neuraminic acid, N-acetyl-, 4-(hydroxyacetate) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-D-galacto-2-Nonulosonic acid, 5-(acetylamino)-3,5-dideoxy-, 4-(hydroxyacetate)
OTHER NAMES:
CN 4-O-Glycolyl-N-acetylneuraminic acid
CN N-Acetyl-4-O-glycoloylneuraminic acid
FS STEREOSEARCH
MF C13 H21 N O11
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative)

Absolute stereochemistry.

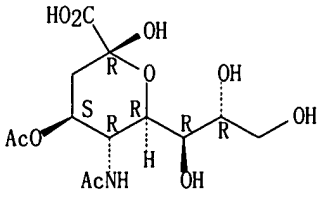


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L20 ANSWER 10 OF 10 REGISTRY COPYRIGHT 2005 ACS on STN
RN 21299-79-6 REGISTRY
CN .alpha.-Neuraminic acid, N-acetyl-, 4-acetate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN D-glycero-.alpha.-D-galacto-2-Nonulopyranosonic acid, 5-(acetylamino)-3,5-dideoxy-, 4-acetate
CN D-glycero-D-galacto-Nonulopyranosonic acid, 5-acetamido-3,5-dideoxy-, 4-acetate, .alpha.- (8CI)
FS STEREOSEARCH
MF C13 H21 N O10
LC STN Files: BEILSTEIN*
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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L1             1 US20040086849/PN
                 E US1999-129602/AP,PRN
L2             1 US1999-129602P/AP,PRN
L3             1 L1-2

     FILE 'REGISTRY' ENTERED AT 08:23:16 ON 15 MAR 2005

     FILE 'HCAPLUS' ENTERED AT 08:23:19 ON 15 MAR 2005
L4               TRA L3 1- RN :         5 TERMS

     FILE 'REGISTRY' ENTERED AT 08:23:19 ON 15 MAR 2005
L5             5 SEA L4

     FILE 'WPIX' ENTERED AT 08:23:22 ON 15 MAR 2005
L6             1 US20040086849/PN
                 E US1999-129602/AP,PRN
L7             1 US1999-129602P/AP,PRN
L8             1 L6-7

     FILE 'REGISTRY' ENTERED AT 08:48:59 ON 15 MAR 2005
L9               STR
L10            0 L9 CSS
L11           55 L9 CSS FULL
                 SAV TEM L11 GIT017F0/A
L12              STR
L13           25 L12 CSS
L14          324 L12 CSS FULL
                 SAV TEM L14 GIT017F1/A
                 SEL RN 7 42 46-47 L11
L15            4 E1-4 AND L11
L16              STR L12
L17              STR L16
L18            2 L17 SAM SUB=L14
L19            6 L17 FULL SUB=L14
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                 SAV TEM GIT017S1/A L15
L20           10 L15 OR L19

     FILE 'REGISTRY' ENTERED AT 09:51:42 ON 15 MAR 2005

     FILE 'HCAPLUS' ENTERED AT 09:52:06 ON 15 MAR 2005
L21           16 L20
L22            0 4 (1A) 7 (2A) METHYL(1A) N(1A) (ACETYLNEURAMINIC OR ACETYL (1A)
L23          107 (4 (1A) GLYCOLYL (1A) N(1A)ACETYLNEURAMINIC OR N(1A) ACETYL (2A
                 E INFLUENZA/CT
                 E E3+ALL
L24        1986 INFLUENZA/CT
                 E INFLUENZA/CT
                 E E6+ALL
L25        2036 INFLUENZA A VIRUS/CT
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                E VIRUS, ANIMAL/CT
                E E3+ALL
                E E2
                E E3+ALL
L26         6619 ANIMAL VIRUS+OLD/CT (L) INFLUENZA
                E INFLUENZA/CT
                E E10+ALL
                E INFLUENZA/CT
                E E12
                E E3+ALL
                E E6
                E E3+ALL
L27        10803 INFLUENZA VIRUS+OLD,NT/CT
                E INFLUENZA/CT
L28            6 (L21 OR L23) AND L24-27
                E SHIMASAKI C/AU
L29           18 E3-4,E6-8
                E ACHYUTHAN K/AU
L30           52 E3-7
                E EDWARDS B/AU
L31          235 E3-21
                E EDWARDS BROOKS/AU
L32           71 E3-5
L33         1342 (ZYMETX OR PALLADIN)/CS,PA
L34            2 L28 AND L29-33
L35            4 L28 NOT L34
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L36            3 E1-6 AND L35

     FILE 'MEDLINE' ENTERED AT 10:13:57 ON 15 MAR 2005
L37           70 L21-23
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L39            2 L37 AND L38

     FILE 'EMBASE' ENTERED AT 10:22:06 ON 15 MAR 2005
L40           61 L21-23
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                E INFLUENZA/CT
                E E3+ALL
L42         9711 INFLUENZA/CT
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                E E3+ALL
                E E2
                E E3+ALL
L43         4998 INFLUENZA VIRUS A/CT
L44            0 L40 AND L41-43

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FILE 'HCAPLUS' ENTERED AT 10:26:47 ON 15 MAR 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 15 Mar 2005 VOL 142 ISS 12
FILE LAST UPDATED: 14 Mar 2005 (20050314/ED)

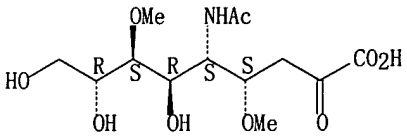
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all fhitstr l34 tot

L34 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:492133 HCAPLUS
DN 131:214495
ED Entered STN: 10 Aug 1999
TI Synthesis of bromoindolyl 4,7-di-O-methyl-Neu5Ac: specificity toward influenza A and B viruses
AU Liav, Avraham; Hansjergen, Joyce A.; Achyuthan, Komandoor E.; Shimasaki, Craig D.
CS ZymeTx Inc., Oklahoma City, OK, 73104, USA
SO Carbohydrate Research (1999), 317(1-4), 198-203
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier Science Ltd.
DT Journal
LA English
CC 33-8 (Carbohydrates)
AB N-Acetylneuraminic acid (Neu5Ac) was converted into Me ketoside-8,9-epoxy derivative Methylation followed by deprotection gave 4,7-di-O-methyl-Neu5Ac. This was converted into the corresponding Me ester-chloroacetate derivative, which was subsequently coupled to 5-bromo-indol-3-ol to give the chromogenic product. Deprotection gave 5-bromo-indol-3-yl 4,7-di-O-methyl-Neu5Ac. The product was specifically cleaved by sialidase from either influenza A or influenza B virus to give an indigo-blue precipitate, but was not cleaved by several bacterial or viral sialidases tested. The properties relative to a fluorescent substrate for sialidase were also documented.
ST sialidase substrate bromoindolyl acetylneuraminate; bromoindolyl acetylneuraminate prepn influenza virus
IT Influenza A virus
Influenza B virus
(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
IT 9001-67-6, Sialidase
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(from influenza A and B viruses; preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
IT 203447-96-5P
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
IT 114165-30-9 182937-34-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
IT 203448-18-4P 243134-39-6P 243134-41-0P 243134-45-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
IT 243134-47-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Beau, J; Eur J Biochem 1980, V106, P531 HCAPLUS
(2) Corfield, A; Biol Chem Hoppe-Seyler 1986, V367, P433 HCAPLUS
(3) Drzeniek, R; Curr Top Microbiol Immunol 1972, V59, P35 HCAPLUS
(4) Eschenfelder, V; Glyconjugate J 1987, V4, P171 HCAPLUS
(5) Horwitz, J; J Med Chem 1964, V7, P574 HCAPLUS
(6) Isecke, R; Tetrahedron 1994, V50, P7445 HCAPLUS
(7) Kong, D; Tetrahedron Lett 1995, V36, P957 HCAPLUS
(8) Liav, A; US 5252458 1993 HCAPLUS
(9) Liav, A; Carbohydr Res 1995, V271, P241 HCAPLUS
(10) Murayama, J; Anal Biochem 1976, V73, P535 HCAPLUS
(11) Varki, A; J Biol Chem 1983, V258, P12465 HCAPLUS
IT 203448-18-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of bromoindolyl Me-Neu5Ac and its specificity toward influenza A and B viruses)
RN 203448-18-4 HCAPLUS
CN Neuraminic acid, N-acetyl-4,7-di-O-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L34 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:146539 HCAPLUS
DN 128:189875
ED Entered STN: 11 Mar 1998
TI 4,7-Dialkoxy N-acetylneuraminic acid derivatives and methods for detection of influenza type A and B viruses in clinical specimens
IN Liav, Avraham; Hansjergen, Joyce Anne; Shimasaki, Craig David
PA Oklahoma Medical Research Foundation, USA
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-70
ICS C12N009-26; C07H001-00; C07H015-00
NCL 435005000
CC 7-1 (Enzymes)
Section cross-reference(s): 9, 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5719020	A	19980217	US 1996-718666	19960925
	CA 2237790	AA	19980402	CA 1997-2237790	19970905
	WO 9813372	A1	19980402	WO 1997-US15602	19970905

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,

DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG,
UZ, VN, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
GN, ML, MR, NE, SN, TD, TG

AU 9742512	A1	19980417	AU 1997-42512	19970905
AU 716275	B2	20000224		
EP 888371	A1	19990107	EP 1997-940823	19970905
EP 888371	B1	20020522		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1205011	A	19990113	CN 1997-191313	19970905
CN 1091447	B	20020925		
BR 9706776	A	19990518	BR 1997-6776	19970905
JP 2000501748	T2	20000215	JP 1998-515655	19970905
AT 217879	E	20020615	AT 1997-940823	19970905
IL 124511	A1	20020814	IL 1997-124511	19970905
ES 2173481	T3	20021016	ES 1997-940823	19970905
NO 9802343	A	19980701	NO 1998-2343	19980522
NO 310822	B1	20010903		
HK 1016988	A1	20020913	HK 1999-101848	19990427
CN 1324954	A	20011205	CN 2001-116694	20010418
PRAI US 1996-718666	A	19960925		
WO 1997-US15602	W	19970905		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5719020	ICM	C12Q001-70
	ICS	C12N009-26; C07H001-00; C07H015-00
	NCL	435005000
US 5719020	ECLA	C07H007/027; C12Q001/34; G01N033/569K
WO 9813372	ECLA	C07H007/027; C12Q001/34; G01N033/569K

OS MARPAT 128:189875

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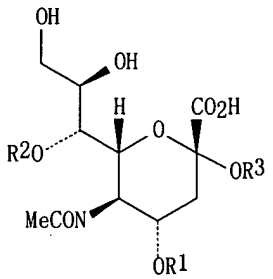

I

AB Chromogenic and fluorogenic 4,7-dialkoxy-N-acetylneuraminic acid substrates of the general formula I are provided wherein R1 and R2 are alkyl groups containing 1-4 carbon atoms and R3 is a chromogenic or fluorogenic group. These substrates can be used to detect influenza types A and B in clin. samples or specimens. More particularly, these 4,7-dialkoxy-N-acetylneuraminic acid substrates can be used to distinguish between various viruses having neuraminidase reactivity. Thus, influenza type A and B viruses can be distinguished from parainfluenza type 1, 2, 3, and 4, and mumps using the 4,7-dialkoxy-N-acetylneuraminic acid derivs. of this invention. Diagnostic methods employing these substrates are

provided to identify influenza type A and B viruses in clin. specimens and to distinguish from other viruses having neuraminidase reactivity.
ST neuraminidase detn dialkoxyacetylneuraminate influenza virus
IT Influenza A virus
Influenza B virus
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)
IT 9001-67-6, Neuraminidase
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)
IT 131-48-6DP, N-Acetylneuraminic acid, 4,7-dialkoxy derivs. 203447-90-9P
203447-91-0P 203447-92-1P 203447-93-2P 203447-94-3P 203447-95-4P
203447-96-5P 203447-97-6P 203447-98-7P 203447-99-8P 203448-00-4P
203448-01-5P 203448-02-6P 203448-03-7P 203448-04-8P 203448-05-9P
203448-06-0P 203448-07-1P 203448-08-2P 203448-09-3P 203448-10-6P
203448-11-7P 203448-12-8P 203448-13-9P 203448-14-0P 203448-15-1P
203448-16-2P 203448-17-3P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)
IT 110390-89-1 114165-30-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)
IT 203448-18-4P 203448-19-5P 203448-20-8P 203448-21-9P
203448-22-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(40) Zbiral; Liebigs, Ann Chem 1989, P519 HCAPLUS
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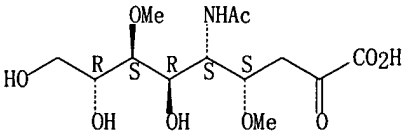
IT 203448-18-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(4,7-dialkoxy N-acetylneuraminic acid derivs. and methods for detection of influenza type A and B viruses in clin. specimens)

RN 203448-18-4 HCAPLUS
CN Neuraminic acid, N-acetyl-4,7-di-O-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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L36 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:489570 HCAPLUS
DN 119:89570
ED Entered STN: 04 Sep 1993
TI Determination of the sialic acid linkage specificity of sialidases using lectins in a solid phase assay
AU Rogerieux, Francoise; Belaise, Max; Terzidis-Trabelsi, Helene; Greffard, Anne; Pilatte, Yannick; Lambre, Claude R.
CS Hop. H. Mondor, Creteil, 94010, Fr.
SO Analytical Biochemistry (1993), 211(2), 200-4
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
CC 7-1 (Enzymes)
AB A procedure for the determination of activity and linkage specificity of sialidases is described. The sialoglycoprotein fetuin is coated onto a microtiter plate and incubated with sialidases from different sources. Enzymic activities and linkage specificities are then determined by a sandwich method which measured the binding of different lectins to fetuin. The lectins used were peanut agglutinin (PNA) from Arachis hypogaea, which

binds specifically the galactose .beta.-1-3-N-acetylgalactosamine structures that are unmasked following sialidase treatment of fetuin, the lectins from Sambucus nigra (SNA) and Maackia amurensis (MAA) that are specific for .alpha.-2-6 and .alpha.-2-3 bound sialic acids, resp., and the slug agglutinin from Limax flavus (LFA) that is specific for N -acetyl and N-glycolyl neuraminic acids. Increased PNA and decreased LFA, SNA, and MAA lectin binding correlated with sialidase-induced desialylation of the substrate. In this report, the assay was used to determine the activities and specificities of influenza, Vibrio cholerae, and Arthrobacter ureafaciens sialidases.

ST sialidase detn specificity fetuin lectin

IT Agglutinins and Lectins
RL: ANST (Analytical study)
(LFA (Limax flavus agglutinin), in determination of sialidase activity and linkage specificity by solid phase assay)

IT Agglutinins and Lectins
RL: ANST (Analytical study)
(MAA (Maackia amurensis agglutinin), in determination of sialidase activity and linkage specificity by solid phase assay)

IT Agglutinins and Lectins
RL: ANST (Analytical study)
(PNA (peanut agglutinin), in determination of sialidase activity and linkage specificity by solid phase assay)

IT Agglutinins and Lectins
RL: ANST (Analytical study)
(SNA (Sambucus nigra agglutinin), in determination of sialidase activity and linkage specificity by solid phase assay)

IT Fetuins
RL: ANST (Analytical study)
(in determination of sialidase activity and linkage specificity by solid phase assay)

IT Arthrobacter ureafaciens
Vibrio cholerae
(sialidase of, determination of activity and linkage specificity of, with fetuin and lectins in solid phase assay)

IT Virus, animal
(influenza A/PR/8/34, sialidase of, determination of activity and linkage specificity of, with fetuin and lectins in solid phase assay)

IT 9001-67-6, Sialidase
RL: ANST (Analytical study)
(determination of activity and linkage specificity of, with fetuin and lectins in solid phase assay)

L36 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:49369 HCAPLUS
DN 98:49369
ED Entered STN: 12 May 1984
TI Substrate specificity of viral, bacterial and mammalian sialidases with regard to different N,O-acetylated sialic acids and GM1
AU Sander-Wewer, Michael; Schauer, Roland; Corfield, Anthony P.
CS Schiffahrtmed. Inst. Mar., Kiel, Fed. Rep. Ger.
SO Advances in Experimental Medicine and Biology (1982), 152, 215-22
CODEN: AEMBAP; ISSN: 0065-2598
DT Journal
LA English
CC 7-3 (Enzymes)
AB The substrate specificity of neuraminidase (sialidase) (I) from various viruses, bacteria, and mammals was investigated. I from Clostridim perfringens used ganglioside GM1 (II) as a substrate, but not de-II (which

lacks the ceramide moiety). Cholate increased I activity at an optimal pH of 5.0. II and de-II were both inactive with I of Vibrio cholerae, Newcastle disease virus (NDV) and fowl plague virus (FPV). The effect on I activity of the 4-O-Ac groups of ganglioside GM3 containing 4-O-acetyl-N-glycolylneuraminic acid and glycoproteins containing 4-O-acetyl-N-acylneuraminic acids was investigated. NDV I activity was markedly reduced by an Ac group at C-4 of the sialic acid, presumably due to an inhibitory effect of the group. The specificities of I from FPV, NDV, and influenza A2 virus, and from C. perfringens, V. cholerae, and Arthrobacter ureafaciens, as well as human liver, toward substrates containing N-acetylneuraminic acid or N-glycolylneuraminic acid were investigated. The I enzymes showed a general trend of higher activity for substrates containing N-acetylneuraminic acid.

ST neraminidase specificity acetylsialate ganglioside GM1; virus neuraminidase specificity; bacteria neuraminidase specificity; liver neuraminidase specificity; sialidase specificity acetylsialate ganglioside GM1

IT Sialoglycoproteins
RL: BIOL (Biological study)
(neuraminidase of Newcastle disease virus specificity for, O-acetylation in relation to)

IT Liver, composition
(neuraminidase of, of human, substrate specificity of)

IT Arthrobacter ureafaciens
Clostridium perfringens
Vibrio cholerae
(neuraminidase of, substrate specificity of)

IT Michaelis constant
(of neuraminidase)

IT Virus, animal
(Newcastle disease, neuraminidase of, substrate specificity of)

IT Virus, animal
(fowl plague, neuraminidase of, substrate specificity of)

IT Virus, animal
(influenza A2, neuraminidase of, substrate specificity of)

IT 69345-49-9 73379-75-6
RL: BIOL (Biological study)
(neuraminidase of Newcastle disease virus specificity for, O-acetylation in relation to)

IT 361-09-1
RL: BIOL (Biological study)
(neuraminidase of Clostridium perfringens activation by, ganglioside GM1 hydrolysis in relation to)

IT 37758-47-7
RL: BIOL (Biological study)
(neuraminidase of Clostridium perfringens specificity for)

IT 35890-38-1 54827-14-4 72506-87-7 76790-24-4 81275-44-7
RL: BIOL (Biological study)
(neuraminidase specificity for)

IT 9001-67-6
RL: BIOL (Biological study)
(substrate specificity of, of bacteria and viruses and human liver)

L36 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1968:76575 HCAPLUS
DN 68:76575
ED Entered STN: 12 May 1984
TI Sialic acids of horse serum with special reference to their virus-inhibitory properties
AU Pepper, Duncan S.

CS Univ. Coll. Hosp. med. Sch., London, UK
SO Biochimica et Biophysica Acta (1968), 156(2), 317-26
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English
CC 13 (Immunochemistry)
AB Horse serum, which contains a substance capable of inhibiting Asian influenza virus, was investigated to determine whether or not sialic acids are important in this reaction, and if so, what types of sialic acid are present. Hydrolysis of horse serum and subfractions by dilute acid, alkali, and Vibrio cholerae and influenza virus neuraminidases (EC 3.2.1.18) indicates that the sialic acids present are a mixture of N-acetyl- and N-glycolylneuraminic acids together with the 4-O-acetylated derivatives of these acids. The biol. activity which horse serum exhibits specifically towards the A2 strain of influenza virus appears to be determined by a 4-O-acetyl-N-acetyl-neuraminic acid-substituted .alpha.2-macroglobulin. The horse serum sialic acids (60%), which are resistant to V. cholerae neuraminidase but hydrolyzed by A2 virus neuraminidase are, the 4-O-acetylated neuraminic acids. It is suggested that a conjugate relation exists between the type of sialic acid in an inhibitor, the virus strain which it inhibits, and the types of sialic acid which a given viral neuraminidase will hydrolyze. This relation may be made the basis of a sensitive test for identifying different types of sialic acids. 36 references.
ST SERUM ANTIBODIES INFLUENZA; FLU VIRUS SIALIC ACID; SIALIC ACID FLU VIRUS; INFLUENZA SERUM ANTIBODIES; NEURAMINIC ACID ANTIBODIES; ANTIBODIES VIRUSES; VIRUSES ANTIBODIES
IT Sialic acids
RL: BIOL (Biological study)
(in blood serum of horse, influenza virus inhibition in relation to)
IT Viruses, animal
(influenza A2, sialic acids in blood serum of horse in relation to inhibition of)
IT Blood serum
(sialic acids in, of horse, influenza virus inhibition in relation to)

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FILE 'MEDLINE' ENTERED AT 10:27:15 ON 15 MAR 2005

FILE LAST UPDATED: 12 MAR 2005 (20050312/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow promt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L39 ANSWER 1 OF 2 MEDLINE on STN

AN 1999395709 MEDLINE
DN PubMed ID: 10466215
TI Synthesis of bromoindolyl 4,7-di-O-methyl-Neu5Ac: specificity toward influenza A and B viruses.
AU Liav A; Hansjergen J A; Achyuthan K E; Shimasaki C D
CS ZymeTx Inc., Oklahoma City, OK 73104, USA.. liava@zymetx.com
SO Carbohydrate research, (1999 Apr 30) 317 (1-4) 198-203.
Journal code: 0043535. ISSN: 0008-6215.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199909
ED Entered STN: 19991005
Last Updated on STN: 19991005
Entered Medline: 19990921
AB N-Acetylneuraminic acid (Neu5Ac) was converted into the methyl ester methyl ketoside-8,9-epoxy derivative (8). Methylation of 8 followed by deprotection gave 4,7-di-O-methyl-Neu5Ac (10). Compound 10 was converted into the corresponding methyl ester-chloroacetate derivative, which was subsequently coupled to 5-bromo-indol-3-ol to give the chromogenic product (13). Deprotection of 13 gave 5-bromo-indol-3-yl 4,7-di-O-methyl-Neu5Ac (5). The product 5 was specifically cleaved by sialidase from either influenza A or influenza B virus to give an indigo-blue precipitate, but was not cleaved by several bacterial or viral sialidases tested. The properties of product 5 relative to a fluorescent substrate for sialidase were also documented.
CT Arthrobacter: EN, enzymology
Carbohydrate Conformation
Clostridium perfringens: EN, enzymology
Humans
Influenza: DI, diagnosis
*Influenza A virus: EN, enzymology
Influenza A virus: IP, isolation & purification
*Influenza B virus: EN, enzymology
Influenza B virus: IP, isolation & purification
Molecular Structure
*N-Acetylneuraminic Acid: AA, analogs & derivatives
N-Acetylneuraminic Acid: CS, chemical synthesis
N-Acetylneuraminic Acid: CH, chemistry
N-Acetylneuraminic Acid: ME, metabolism
*Neuraminidase: ME, metabolism
Salmonella typhimurium: EN, enzymology
Streptococcus: EN, enzymology
Substrate Specificity
RN 131-48-6 (N-Acetylneuraminic Acid)
CN 0 (5-bromoindolyl-4,7-di-O-methyl-N -acetylneuraminic acid); EC 3.2.1.18 (Neuraminidase)

L39 ANSWER 2 OF 2 MEDLINE on STN
AN 93304665 MEDLINE
DN PubMed ID: 7686353
TI Determination of the sialic acid linkage specificity of sialidases using lectins in a solid phase assay.
AU Rogerieux F; Belaise M; Terzidis-Trabelsi H; Greffard A; Pilatte Y; Lambre C R
CS INSERM U 139, Hopital, H. Mondor, Creteil, France.
SO Analytical biochemistry, (1993 Jun) 211 (2) 200-4.
Journal code: 0370535. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)

LA English
FS Priority Journals
EM 199307
ED Entered STN: 19930813
Last Updated on STN: 19970203
Entered Medline: 19930728
AB A procedure for the determination of activity and linkage specificity of sialidases is described. The sialoglycoprotein fetuin is coated onto a microtiter plate and incubated with sialidases from different sources. Enzymatic activities and linkage specificities are then determined by a sandwich method which measured the binding of different lectins to fetuin. The lectins used were peanut agglutinin (PNA) from Arachis hypogaea, which binds specifically the galactose beta-1-3-N-acetylgalactosamine structures that are unmasked following sialidase treatment of fetuin, the lectins from Sambucus nigra (SNA) and Maackia amurensis (MAA) that are specific for alpha-2-6 and alpha-2-3 bound sialic acids, respectively, and the slug agglutinin from Limax flavus (LFA) that is specific for N-acetyl and N-glycolyl neuraminic acids. Increased PNA and decreased LFA, SNA, and MAA lectin binding correlated with sialidase-induced desialylation of the substrate. In this report, the assay was used to determine the activities and specificities of influenza, Vibrio cholerae, and Arthrobacter ureafaciens sialidases.
CT Carbohydrate Sequence
Fluorescent Dyes
Galactose: ME, metabolism
*Lectins: ME, metabolism
Molecular Sequence Data
N-Acetylneuraminic Acid
Neuraminidase: CH, chemistry
*Neuraminidase: ME, metabolism
Orthomyxoviridae: ME, metabolism
*Plant Lectins
Reference Standards
Research Support, Non-U.S. Gov't
Sialic Acids: CH, chemistry
*Sialic Acids: ME, metabolism
Substrate Specificity
alpha-Fetoproteins: ME, metabolism
RN 131-48-6 (N-Acetylneuraminic Acid); 26566-61-0 (Galactose)
CN 0 (Fluorescent Dyes); 0 (Lectins); 0 (Plant Lectins); 0 (Sambucus nigra lectins); 0 (Sialic Acids); 0 (alpha-Fetoproteins); EC 3.2.1.18 (Neuraminidase)

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